Draft Summary of the Environmental Work Group Meeting
Oroville Facilities Relicensing (FERC Project No. 2100)
March 26, 2003

The Department of Water Resources (DWR) hosted a meeting for the Environmental Work Group on March 26, 2003 in Oroville.

A summary of the discussion, decisions made, and action items is provided below. This summary is not intended to be a transcript, analysis of the meeting, or to indicate agreement or disagreement with any of the items summarized, except where expressly stated. The intent is to present a summary for interested parties who could not attend the meeting. The following are attachments to this summary:

Attachment 1	Meeting Agenda
Attachment 2	Meeting Attendees
Attachment 3	Flip Chart Notes
Attachment 4	SP-F21 Predation: Supporting Information Report
Attachment 5	Draft Final Report SP-F3.1, Task 2B
Attachment 6	Interim Report SP-T1
Attachment 7	Draft Report SP-F2, Tasks 1 & 2
Attachment 8	Resource Action Information Table
Attachment 9	Draft Resource Action Development for Geographic Area Discussion: The Lower Feather River Downstream of the Afterbay Outlet to the Confluence of the Sacramento River, Thermalito Complex Including the Diversion Pool, Thermalito Forebay, Thermalito Afterbay and the Oroville Wildlife Area

I. Introduction

Attendees were welcomed to the Environmental Work Group meeting. Attendees introduced themselves and their affiliations. The desired outcomes of the meeting were discussed as listed on the meeting agenda. The Facilitator noted that DWR was testing a new sound arrangement that eliminated the need for the conference phone by wiring the telephone directly to the speaker system but reminded participants to use the microphones so that their comments could be heard by those participating via telephone. The meeting agenda and list of meeting attendees are appended to this summary as Attachments 1 and 2, respectively. Meeting flip chart notes are included as Attachment 3.

II. Action Items – February 19, 2003 Environmental Work Group Meeting

A summary of the February 19, 2003 Environmental Work Group meeting is posted on the relicensing web site. The Facilitator reviewed the status of action items from that meeting as follows:

Action Item #E78: Status of Section 10 process.
Responsible: DWR
Status: Terry Mills, Environmental Resource Area Manager briefly explained the Section 10 process and reported that DWR had filed a permit application several weeks ago to monitor distribution and movements of Spring run Chinook salmon. He indicated that NOAA Fisheries would take approximately 130 days to process the permit so DWR may have missed the opportunity to complete radio-tagging studies this year. Participants asked if the processing could be expedited. Terry responded that while Eric Theiss is

working to assist DWR in the permit process, the action needs to be published in the Federal Register so it will take at least 30 days.

Action Item #E79: Summarize what data might come from other study plans that will help evaluate predator issues.
Responsible: DWR
Status: Dave Olson with the consulting team distributed "SP-F21 Predation: Supporting Information Report" (see Attachment 4) that summarizes information relative to predation that will come from other fisheries study plans.

Action Item #E80: E-mail fish disease update.
Responsible: Wayne Dyok
Status: Wayne Dyok with the consulting team reported that the update was distributed via e-mail. Anna Kastner noted she did not receive it but had changed e-mail addresses and would provide her new address to DWR.

Action Item #E81: Send e-mail outlining next work group meeting activities.
Responsible: Facilitator
Status: The Facilitator noted she had sent Ted Alvarez with DWR a brief outline of the March meeting activities for distribution that was forwarded last week to the full Environmental Work Group E-mail list.

III. Update on Plenary Group Actions

The Facilitator updated participants on recent Plenary Group activities. She explained that for the past two meetings, Plenary Group participants have been conducting a collaborative check-up to determine the health of the process. The Plenary Group further identified the term 'participant', specifically describing multiple representatives of a given Participant as constituting one Participant for the purposes of consensus. For example, several DWR representatives may be participating in discussions at a meeting but when consensus is called for, DWR only has one voice in the decision. The Facilitator explained that the Plenary Group agreed to formulate a roster for the purposes of identifying the collaborative participants (groups), their primary representative, and their ultimate decision-maker.

She also described placards that will be made for each participant group, which will be placed in front of the primary participant for that group at the meeting. Craig Jones, representing State Water Contractors (SWC) asked if the same procedure would be followed at the work group level. Ward Tabor with DWR responded that the Plenary Group decisions also cover the work groups. Terry Mills added that the work groups would need to reach consensus on issues as well so the same process would be useful. Ward noted that even if you do not have the placard, you could still participate in the discussion and voice concerns.

Mike Meinz informed the participants that Rick Miles, a FERC dispute resolution specialist spoke at the Plenary Group meeting and directed all of us to focus on interests and not get positional because there is no room for compromise if everyone is stuck on their own positions. The Facilitator noted that FERC offered to conduct a mutual gains workshop for the Oroville collaborative and several Environmental Work Group participants expressed interest in such a workshop.

The Facilitator also noted that the Plenary Group approved the Resource Action (PM&E) Information Form for distribution to and use by work groups and stakeholders and described the three methods for resource action information form introduction into the process: submit the form to

a work group for consideration; develop the form within a work group; submit a form to Rick Ramirez, DWR Program Manager and he will forward it to the appropriate work group.

IV. Study Deliverables and Implementation Updates

SP-F3.1, Task 2B
Dave Olson consulting team study lead distributed Draft Final Report SP- F3.1, Task 2B (Attachment 5). He described the effort designed to determine if there is adequate coldwater pool in Oroville Reservoir to meet stocking goals. Choosing the most conservative recommendations for stocking densities (1 fish/m^3) and 18ºC and 6.5mg/L dissolved oxygen as criteria for the coldwater pool, the study evaluated water temperature and dissolved oxygen profiles for 51 months. In only one month, September 1996, data showed no usable water but Dave indicated this data point resulted from a lack of sampling below the thermocline during that month. The next lowest month showed 23,000 acre-feet of usable water, over 50 times the 413 acre-feet required.

Mike Meinz asked if they had evaluated the habitat for forage base. Dave Olson responded that the food base data indicate there is forage base at depths where there is coldwater habitat at all times. Chuck Hansen representing SWC suggested an approach in which you would first determine the food supply needed for an individual coho salmon, then calculate what would be needed for the entire population and confirm that it is present. Dave noted that this study is an analysis of coldwater availability and pointed out that the stocking recommendations evaluated in the study were developed based on actual growth data, indicating adequate forage base present. Eric See with DWR clarified that the stocking recommendation was developed considering an acceptable growth rate and acceptable catch rate. The amount of forage needed for a salmonid will depend on the growth rates you desire so the analysis is difficult but the stocking recommendations are based on trophic interaction and food availability.

SP-T9
Interim Report SP-T9, Recreation and Wildlife was distributed to the participants at the February Work Group meeting (see February 19, 2003 Environmental Work Group Summary, Attachment 7). However, Dave Bogener, DWR study lead, was unavailable for the February meeting so Terry Mills asked that any questions regarding the interim report be deferred until the March Environmental Work Group meeting. Dave explained that a usable product for Task 1 should be available early next month and thus far 2,800 individual species' locations have been mapped representing approximately 25 species. A participant asked if field personnel made all these observations and Dave responded yes. Dave reminded participants that goals for T9 include identification of existing and future recreation development and maintenance areas. A GIS layer will be developed that includes trails, boat ramps, campgrounds, etc. He explained that seasonal habitat use is being evaluated and includes literature review and fieldwork.

SP-T1
Dave Bogener provided copies of Interim Report SP-T1 (see Attachment 6) and described the study as an evaluation of changes in wildlife occurrences and habitat due to project operations and maintenance. Dave provided an example of fluctuations in the Afterbay that have resulted in losses to waterfowl eggs. He explained that Department of Fish and Game (DFG) and California Waterfowl Association (CWA) have worked together to come up with operational scenarios for 2003 that will help protect waterfowl eggs. Curtis Creel, Operations Resource Area Manager for DWR told the participants that DWR is trying to keep the Afterbay at levels suitable for waterfowl nesting and is coordinating with DFG and CWA to make criteria for fluctuations that will encourage the birds to nest at a certain elevation.

Dave also described the project effects on bank swallow habitat downstream of the project and noted that high flows or spring pulse flows are needed to maintain their habitat. He clarified that pulse flows differ from high flows primarily in duration and ramping rates. In terms of riparian vegetation needs, high flows that deposit seeds on high benches and then recede slowly, allowing roots adequate time to become established are necessary for riparian vegetation development. Gail Kuenster with DWR added that recommendations on the Sacramento River call for bankfull or high flows every five to seven years for riparian vegetation health.

Dave described the gravel harvest operations in the Oroville Wildlife Area (OWA) and impacts to the riparian corridor. He added that the gravel tailings are identified as historically important and may also be an important tool to get water into the OWA. Ron Davis asked about the impacts trails maintenance activities have on wildlife. Dave responded that since there are no paved trails, the maintenance is low impact.

SP-F2, Phase 1
Jason Shappart with the consulting team discussed Draft Report SP-F2, Tasks 1&2 (see Attachment 7). The purpose of this study was to review the establishment, control, and transmission of fish diseases based on literature review and discussions with experts in the field. He explained that of the seven common diseases, the two that are the focus of the report are IHN and C. Shasta. They concluded that disease outbreaks occur primarily at hatcheries but not in the wild. They will do some analysis using water temperature and water quality data and noted that University of California Davis researchers under SP-F9 are conducting additional field studies on IHN.

SP-F10, Task 1E
Dave Olson provided a verbal update on F10, Task 1E. He reported that data has been collected on water temperature and dissolved oxygen profiles for 17 pools from the Fish Barrier Dam to Verona. No stratification of water temperature or dissolved oxygen was noted. He is developing spring-run Chinook salmon criteria and comparing the criteria to the observed data. Mike Meinz asked if water temperature data had been collected at the Fish Barrier Pool. Dave said no but they were recommending it.

SP-F3.2, Task 4
Dave Olson described this task as a GIS effort and reported that water temperature data had been collected for DWR and they were waiting for mesohabitat, depth, cover, substrate, etc. from SP-G2. SP-T4 is providing aquatic vegetation. Curtis Creel noted that the Engineering and Operations Work Group modeling team developed a hypothesis that Thermalito Diversion Pool would be mildly stratified and the Afterbay would be very stratified. However, data is showing stratification in the Diversion Pool while it turns out the Afterbay isn't nearly as stratified as expected. In addition, the temperature measured at the Afterbay inflow and outflow varied by only 1º C.

V. Geographic Area Discussion – Thermalito Complex, Oroville Wildlife Area, Lower Feather River

Terry Mills reminded participants that at their last meeting when discussing the Low Flow Channel, they had identified 26 potential resource actions. DWR staff and consultants developed a Resource Action Identification Form for each of the 26 and distributed it to the Environmental Work Group (EWG). Since the document is quite lengthy, Terry condensed some of the information on the forms into a table that provides a snapshot of each proposed resource action and classifies them into either protection/mitigation or enhancement measures (see Attachment 8). Participants discussed the reasons for segregating enhancements from protection/mitigation measures and

recognized that while CEQA will require a monitoring program specific to the identified mitigation measures, FERC will group them all together for analysis. Terry asked the EWG to consider the value of the table while discussing the next geographic area and suggested we revisit the value of the resource action identification forms from the February meeting after that discussion.

Terry distributed a document titled "Draft Resource Action Development for Geographic Area Discussion: The Lower Feather River Downstream of the Afterbay Outlet to the Confluence of the Sacramento River, Thermalito Complex Including the Diversion Pool, Thermalito Forebay Thermalito Afterbay and the Oroville Wildlife Area" (see Attachment 9). The EWG discussed the document and provided additional potential resource actions by area. Steve Rothert, representing American Rivers, suggested increasing inundation frequency for OWA and creating side channel habitat that would increase connectivity between OWA and Feather River. Eric See clarified that the OWA and the Feather River are connected with low spots in the levee designed to overtop during high flow events. Study F10 is evaluating potential stranding during these events.

After some discussion, the EWG decided that the information on the Thermalito Complex needed more development before it would be ready for discussion so they would concentrate on the other geographic areas at this meeting.

The EWG discussed potential impacts from the project to anadromous fish and Anna Kastner with DFG suggested constructing an additional ladder or physical barrier to separate the two Chinook salmon runs. One participant suggested physical modifications to Shanghai Bench to assist in movement and the participants discussed various flow options. Curtis Creel described several model scenarios that the Engineering and Operations Work Group intends to evaluate and provide information on including additional water release to the Low Flow Channel; operational changes from peak to flat; 'channelizing' the Afterbay to capture coldest water for release to the Feather River while allowing other water to warm for agriculture; optimize operations for agriculture; optimize operations for fisheries; and relocating the hatchery, although he noted that the temperature control at Robinson Riffle, not the hatchery temperature requirement would drive releases.

Gail Kuenster pointed out that revegetation should be identified as part of all eradication plans for non-native, invasive plants and Eric See added that water level manipulations may be successful in controlling primrose growth. Gail also pointed out that within the riparian corridor, cottonwoods need terraces and benches where water levels are high long enough to allow seedling establishment. She suggested the current water regime has limited sapling growth along the Feather River and would require active vegetation planting to get growth of large vegetation.

The EWG discussed gravel assessment and potential for gravel recruitment within the system. Koll Buer with DWR described the surveys conducted in 1980, 1994 and 2003 as revealing a coarsening of the river gravels over time from the Fish Barrier Dam to the Gridley Bridge. He described the riverbed from Yuba City downstream to the confluence with the Sacramento River as mostly sand substrate. He suggested if gravels of varying sizes were introduced and flows sufficient to allow their movement downstream, the gravels would fall out in their most logical locations. Sharon Stohrer asked how much is needed to move the gravels now. Koll responded that under current conditions not much appears to move below 10, 000 cfs and it seems that 30,000 to 40,000 cfs is needed to get much movement of the coarse gravel. He explained that the Fluvial 12 model will address some of the transport questions and help understand how gravels placed in the system will change the size distribution and under what conditions those gravels will move.

VI. Next Steps

Terry Mills suggested that it was premature to prepare Resource Action Identification Forms for each of the potential PM&Es heard today and that work was needed before adequate information is available to evaluate the measures. He suggested that DWR and the consultants would reformat what has been done so far, summarize the proposed resource actions in a matrix table, build an attribute table to describe the system drivers, and develop information for the next geographic area of discussion – Lake Oroville. He also noted that the EWG would discuss the Thermalito Complex and the Oroville Wildlife Area once the information is developed more fully.

Rich DeHaven representing the US Fish and Wildlife Service noted that when reviewing the table developed for the 26 resource actions identified at last month's EWG meeting, he sees a great deal of overlap and consolidation possible. He also would prefer an approach that describes an on-going program with less emphasis on one-time actions. The Facilitator clarified that his approach would group the resource actions according to goal and then decide how best to achieve the goal through the use of some or all of the resource actions. Wayne Dyok reminded the participants that the licensee needs to see an impact they are responsible for before suggesting PM&Es and Mike Melanson representing Metropolitan Water District (MWD) added that while he agreed with this approach as it seems to be interest-based rather than position-based, he also agreed MWD would need to see an impact before moving a PM&E forward. Rich told DWR that he would write his comments out and forward them via e-mail.

The participants agreed that the April Environmental Work Group meeting would be:
Date: April 23, 2003
Time: 9:30 a.m. – 3:30 p.m.
Location: Oroville Field Division

Action Items

The following action items identified by the Environmental Work Group includes a description of the action, the participant responsible for the action, and due date.

Action Item #E82: Reorganize and integrate last two geographic areas
Responsible: DWR
Due Date: April 23, 2003

Action Item #E83: Develop attribute tables
Responsible: DWR
Due Date: April 23, 2003

Action Item #E84: Develop proposal to aggregate information
Responsible: DWR
Due Date: April 23, 2003